Indexes to Volume 6

AUTHOR INDEX

Adducci E, 170A
Adt M, 174A
Amato A, 170A

Baethmann A, 163A
Bålfors E, 163A
Barbacini S, 181A
Barker SJ, 53
Bell R, 177A
Belusko R, 258
Benedetti A, 174A
Benumof JL, 61
Beran H, 75
Bergenheim T, 163A
Bingmann D, 163A
Blakeman B, 258
Böhm-Jurkovic H, 75
Bonomo V, 170A
Bosco M, 170A
Bourland JD, 183, 186
Brengelmann GL, 266
Brien RA, 299
Brockschmidt JK, 284
Bruno R, 174A

Cheng-hui L, 176A
Claus D, 168A
Cohen A, 74
Colombo F, 174A
Cooper JO, 271
Cullen BF, 271
Cunitz G, 180A

Dannenberger R, 174A
Daub D, 166A
Davis GJ, 261
de las Alas V, 183, 186
De Luca GP, 174A
Demo P, 181A
Dhamee MS, 128
Dick W, 178A
Dierks T, 175A
Digito A, 181A
Di Mauro G, 307
Dinkel M, 171A
di Quaquaro GS, 307
Doi M, 107
Doyle DJ, 57, 59, 340
Drösler S, 175A
Druschky KF, 168A
Dzwonczyk R, 74

Eberle B, 178A
Engelhardt W, 175A

Feistner H, 161A, 164A
Ferraioli A, 307
Fitch W, 162A
Forbes AD, 226
Fornezza U, 174A, 181A
Freund PR, 141, 257, 266
Freye E, 167A
Friehs G, 10
Fritz W, 172A, 178A, 180A
Fuzes I, 179A

Gaab MR, 161A, 164A
Gaba DM, 338
Geddes LA, 183, 186, 261
Gehrich JL, 53
Geissler C, 180A
Gerschultz S, 53
Gibbs RF, 338
Gorback MS, 118, 158
Götz C, 174A
Grabitz K, 167A
Gravenstein JS, 207
Gravenstein N, 89, 203
Gravlee GP, 284
Greenblott G, 53
Gualtieri E, 170A
Guyton DC, 203

Haass A, 167A
Hack WWM, 211
Hamilton WK Jr, 333
Hansmann DR, 147
Hecht U, 175A, 178A
Heinze H-J, 169A
Hempelmann G, 172A
Hennes H-J, 178A
Hensler T, 128
Heuser D, 162A
Hilz MJ, 168A
Hinrichs H, 161A, 164A
Hohenberger K, 165A
Hopkins AJ, 173A
Hruby J, 339
Hühnefeld D, 178A

Ikeda K, 107
Isaka S, 241
Isler P, 165A

Jaklitsch RR, 24
Jaksche H, 171A
Jantzen J-P, 178A
Jobst G, 163A
Jones BR,299

Kamp H-D, 171A
Kaplan JA, 74
Karimi A, 241
Keplinger F, 163A
Klein HJ, 172A, 178A, 180A
Kleinman B, 258
Koh SO, 85
Kohl F, 163A
Kühn J, 172A
Künkel H, 164A, 169A
Kuppe H, 174A
Kuttner H, 163A

Lacava E, 170A
Lacquaniti L, 181A
Ladurner G, 168A
Landi A, 174A, 181A
Leenhoven T, 211
Lehmenkühler A, 163A
Lehmkuhl P, 175A, 178A
Leksell LG, 99
Lennmarken C, 1
Lerou JGC, 39
Litscher G, 10, 164A, 168A
Loew F, 171A
Löffler W, 75
Lorenz M, 161A
Luger TJ, 173A

Mahutte CK, 147
Mann-Buxbaum E, 163A
Maresch H, 10
Marvulli T, 339
Mascia A, 170A
Maurer K, 175A
Maxwell TP, 147
McNulty SE, 93
Meriläinen PT, 65
Mertes N, 165A
Meyer RM, 196
Miguel R, 160
Millard RK, 236
Miller SB, 177A
Miller WW, 147
Mizutani AR, 61
Moberg D, 177A
Möllmann M, 165A
Morawetz RF, 173A
Morita K, 107
Murino G, 307
Muro JR, 147
Murphy JL, 74

Nederstigt JA, 207

Neufeld GR, 99
Neundörfer B, 168A
Nichols RJ Jr, 5, 139

Okken A, 211
Olson C, 141
Ozaki G, 61

Palmisano BW, 189
Pearl RG, 318
Penner M, 165A
Pennock BE, 276
Pettus DC, 299
Pfurtscheller G, 10, 164A, 168A
Philip BK, 113
Philip JH, 113
Pichlmayr I, 175A, 178A
Pittner F, 163A
Pohl S, 178A
Pöppelmann T, 163A
Porte T, 174A
Prys-Roberts C, 236

Quinn M, 241, 299

Rabow L, 163A
Rampil IJ, 170A
Rath SA, 172A, 178A, 180A
Richard RB, 18
Romaldo C, 307
Ronen GM, 173A
Roy JR, 93
Russ W, 172A
Russell GB, 18

Sandmann W, 167A
Sarnat A, 299
Sassoon CSH, 147
Saunders RJ, 334
Schalkhammer T, 163A
Schlager A, 173A
Schmucker P, 174A
Schnurer G, 241
Schoenlein WE, 183, 186
Schoeppner H, 165A, 177A
Schregel W, 180A
Schreiner MS, 99
Schwarz G, 164A
Schweiger H, 171A
Schwerdtfeger K, 171A
Schwid HA, 141
Sebald AV, 241
Seegers K, 161A

January issue, pp 1–74; April issue, pp 75–182; July issue, pp 183–260; October issue, pp 261–352. An "A" following page number signifies abstract.

Copyright © 1990 by Little, Brown and Company

Seltzer JL, 93
Severinghaus JW, 85, 159, 189
Shah K, 258
Sharar SR, 257
Shi-ao J, 176A
Shlamowitz M, 160
Siegel A, 165A
Siegel LC, 318
Siegel MN, 89
Sjöberg F, 1
Smith NT, 226, 241, 299, 340
Snider MT, 18
Speckmann E-J, 163A
Steller E, 164A
Swedlow DB, 339
Sylvestro A, 99
Symon L, 169A

Talke P, 5, 139
Teasdale G, 168A
Theissen J, 177A
Thiel A, 172A
Torjman M, 93
Traber DL, 5, 139
Tremper KK, 53
Trost HA, 161A
Tryggvason B, 1

Urban G, 163A

Vajsar J, 173A
van Egmond J, 39
Vegfors M, 1
Volpin L, 181A
Voorhees WD, 183, 186

Wallenfang T, 178A
Wallroth CF, 249
Weinfurt PT, 132
Weingarten M, 217
Weis M, 168A
Westenskow DR, 24, 249
Westerhof N, 211
Wieser HG, 165A
Witzman A, 75
Witztum A, 165A
Wright P, 141

Yafuso M, 147
Yelderman M, 322

Zamparetti N, 174A, 181A
Zander J, 177A

Age factors
transcutaneous PCO_2 and PO_2: a multicenter study of accuracy (Palmisano and Severinghaus), 189
Anemia. *See under* Blood
Anesthesia
depth
digital analysis of auditory-evoked potentials as further approach to anesthetic depth (Kuppe et al), 174A
relationship between the level of intravenous-inhalation anesthesia and electroencephalographic changes (Cheng-hui and Shi-ao), 176A
use of acoustically evoked potentials to record depth of anesthesia (Daub), 166A
Anesthesia machines. *See under* Equipment
Anesthetic techniques
hypotension, induced
self-tuning adaptive control of induced hypotension in humans: a comparison of isoflurane and sodium nitroprusside (Prys-Roberts and Millard), PANEL ON MODELING AND CONTROL, 236
spinal
assessment of peripheral blood flow using a pulse oximeter (Vegfors et al), 1
Anesthetics
influence of anesthetics on blood flow velocity of cerebral circulation (Heuser), 162A
intravenous
anesthetic drugs and transcranial blood flow velocities (Geissler et al), 180A
propofol
assessment of the protective effects of anesthetic agents (Fitch), 162A
brain mapping of electroencephalography during induction of anesthesia with propofol (Engelhardt et al), 175A
sedation of postoperative ventilated patients with propofol or midazolam monitored by on-line electroencephalographic analysis (Hecht et al), 175A
relationship between the level of intravenous-inhalation anesthesia and electroencephalographic changes (Cheng-hui and Shi-ao), 176A
thiopental
benzodiazepine and thiopental bolus-induced electroencephalographic changes in comatose patients to evaluate the early prognosis of spontaneous or traumatic hemorrhages (Fritz et al), 178A
volatile
evaluation of long sampling tubes for remote monitoring by mass spectrometry (Lerou et al), 39
infrared analysis of volatile anesthetics: impact of monitor agent setting, volatile mixtures, and alcohol (Guyton and Gravenstein), 203
isoflurane
self-tuning adaptive control of induced hypotension in humans: a comparison of isoflurane and sodium nitroprusside (Prys-Roberts and Millard), PANEL ON MODELING AND CONTROL, 236
Aorta, thoracic
assessment of recovery of spinal cord function using somatosensory evoked potentials after thoracic aortic cross-clamping (Freye et al), 167A
Arteries
radial
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211

Benzodiazepines. *See under* Hypnotics
Blood
anemia
effect of anemia on pulse oximeter accuracy at low saturation (Severinghaus and Koh), 85
skin blood flow
assessment of peripheral blood flow using a pulse oximeter (Vegfors et al), 1
Blood gas analysis
progress in the development of a fluorescent intravascular blood gas system in man (Mahutte et al), TECHNICAL NOTE, 147
Blood gas monitoring, transcutaneous
transcutaneous PCO_2 and PO_2: a multicenter study of accuracy (Palmisano and Severinghaus), 189
Blood pressure
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 241
measurement
accuracy of four indirect methods of blood pressure measurement, with hemodynamic correlations (Gravlee and Brockschmidt), 284
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211
auscultatory mean blood pressure (Davis and Geddes), 261
continuous measurement of central venous pressure by manometry (Doyle), TECHNICAL NOTE, 59
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5
oxygen uptake and mean blood pressure as indicators of induced hyperthermia (de las Alas et al), 186
Brain
abnormalities
brainstem auditory evoked potentials in neonates with Chiari II malformation in relation to ventriculoperitoneal shunting (Ronen et al), 173A
blood-brain barrier
functional electroencephalographic frequency analysis and transcranial Doppler sonography as methods to

Copyright © 1990 by Little, Brown and Company

assess the effectiveness of osmotic therapy (Fritz et al), 180A

blood flow
anesthetic drugs and transcranial blood flow velocities (Geissler et al), 180A
influence of anesthetics on blood flow velocity of cerebral circulation (Heuser), 162A
intracranial pressure effects of venous draining—an experimental study in swine (Hennes et al), 178A
intraoperative electroencephalographic and somatosensory evoked potential monitoring in extra-intracranial high-flow bypass procedures via venous interposition (Fritz et al), 172A
model for identification of the cerebral blood flow control system (Fuzes), 179A
transcranial Doppler sonography during anesthesia and intensive care (Schregel et al), 180A

electroencephalography
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10

evoked potentials
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10
prognostic value of somatosensory evoked potential monitoring and tumor data in supratentorial tumor removal (Witzman et al), 75

gas pressure
monitoring of gas pressure changes in the brain by DC potential measurements (Lehmenkühler and Speckmann), 163A

ischemia
use of somatosensory evoked responses in carotid surgery (Bosco et al), 170A

Brain death
clinical and instrumental central nervous system monitoring in the diagnosis of brain death: an Italian experience (Zamperetti et al), 181A
transcranial Doppler ultrasonography in the diagnosis of brain death (Zamperetti et al), 181A

Brain injuries
benzodiazepine and thiopental bolus-induced electroencephalographic changes in comatose patients to evaluate the early prognosis of spontaneous or traumatic hemorrhages (Fritz et al), 178A
electroencephalographic- and evoked potential-supported pharmacologic brain protection (Schoeppner et al), 177A
magnetic resonance and single photon emission computed tomography of traumatic brain damage: implications for early and late stages of head injury (Teasdale), 168A
pathophysiologic mechanisms of secondary brain damage (Baethmann), 163A

Brain stem
brainstem auditory evoked potentials in neonates with Chiari II malformation in relation to ventriculoperitoneal shunting (Ronen et al), 173A

Capnography. *See under* Measurement techniques
Capnometers. *See under* Equipment
Carbon dioxide
end-tidal
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183
relationship between arterial carbon dioxide and end-tidal carbon dioxide when a nasal sampling port is used (McNulty et al), 93

production
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183

tension, arterial
relationship between arterial carbon dioxide and end-tidal carbon dioxide when a nasal sampling port is used (McNulty et al), 93

Carotid arteries
adjusted surgical and anesthetic management of carotid endarterectomy by means of somatosensory evoked potential (Dinkel), 171A
experience with somatosensory evoked potential monitoring during carotid endarterectomy (Jaksche et al), 171A
neurophysiologic monitoring in carotid artery surgery: a comparison of somatosensory evoked responses and transcranial Doppler ultrasound (Thiel et al), 172A
use of somatosensory evoked responses in carotid surgery (Bosco et al), 170A

Catheterization, peripheral
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211
detection of venous air embolism by continuous intraarterial oxygen monitoring (Greenblott et al), CASE REPORT, 53
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5

Complications
accidents
monitoring for disconnection: ventilators with bellows rising on expiration can deliver tidal volumes after disconnection (Gravenstein and Nederstigt), TECHNICAL NOTE, 207

analog-to-digital conversion
pressure measurement artifact with analog-to-digital conversion (Siegel and Pearl), TECHNICAL NOTE, 318

CO_2-calibration error during automatic correction of measurements in the N1000 Nellcor pulseoximeter/capnometer (Hruby and Marvulli), 339

embolism. *See under* Embolism: air
ETCO2-calibration error in Nellcor N1000 multifunctional monitor (Swedlow), CORRESPONDENCE, 339
hyperthermia alert caused by unrecognized temperature monitor malfunction (Freund and Sharar), CORRESPONDENCE, 257

paralysis
spinal cord ischemia and motor evoked potentials (Doyle), CORRESPONDENCE, 340

Computer simulation
simulation of neuromuscular function and heart rate during induction, maintenance, and reversal of neuromuscular blockade (Jaklitsch and Westenskow), 24

Computer systems
ECG ambulatory monitoring with a real-time analysis system (Ferraioli et al), 307

Computers. *See under* Equipment
Controller. *See under* Equipment
Cystic fibrosis
transcutaneous PCO_2 and PO_2: a multicenter study of accuracy (Palmisano and Severinghaus), 189

Doppler ultrasound. *See under* Equipment

Embolism
air
detection of venous air embolism by continuous intraarterial oxygen monitoring (Greenblott et al), CASE REPORT, 53
detection of venous air embolism in dogs by emission spectrometry (Russell et al), 18
Epilepsy
radiotelemetric long-term monitoring for patients evaluated for surgical therapy of epilepsy (Wieser et al), 165A
Equipment
anesthesia machines
anesthesia machine malfunction simulating spontaneous respiratory effort (Hensler and Dhamee), CASE REPORT, 128
closed-loop control for anesthesia breathing systems (Westenskow and Wallroth), PANEL ON MODELING AND CONTROL, 249
blood pressure cuffs
auscultatory mean blood pressure (Davis and Geddes), 261
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5
capnometers
anesthesia machine malfunction simulating spontaneous respiratory effort (Hensler and Dhamee), CASE REPORT, 128
CO_2-calibration error during automatic correction of measurements in the N1000 Nellcor pulseoximeter/capnometer (Hruby and Marvulli), CORRESPONDENCE, 339
ETCO2-calibration error in Nellcor N1000 multifunctional monitor (Swedlow), CORRESPONDENCE, 339
catheters, arterial
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211
computers
automated anesthetic record is inevitable and valuable (Hamilton), CLINICAL CONTROVERSY, 333
automated anesthetic record will not automatically solve problems in record keeping (Saunders), CLINICAL CONTROVERSY, 335
ECG ambulatory monitoring with a real-time analysis system (Ferraioli et al), 307
frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
microcomputer-based data acquisition system for clinical research (Schwid et al), TECHNICAL NOTE, 141
present and future medicolegal importance of record keeping in anesthesia and intensive care: the case for automation (Gaba), CORRESPONDENCE, 338
recognition accuracy with a voice-recognition system designed for anesthesia record keeping (Smith et al), 299
controllers
closed-loop control for anesthesia breathing systems (Westenskow and Wallroth), PANEL ON MODELING AND CONTROL, 249
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 241
modeling and control (Forbes), PANEL ON MODELING AND CONTROL, 227
densitometers
commercial double-indicator-dilution densitometer using heavy water: evaluation in oleic-acid pulmonary edema (Leksell et al), 99
Doppler ultrasound
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5
extracorporeal roller pump
electrocardiographic artifact caused by extracorporeal roller pump (Kleinman et al), CORRESPONDENCE, 258
fluorescent sensors
progress in the development of a fluorescent intravascular blood gas system in man (Mahutte et al), TECHNICAL NOTE, 147
humidifiers
inexpensive temperature monitor for heated humidifiers (Doyle), TECHNICAL NOTE, 57
passive warming of airway gases (artificial nose) improves accuracy of esophageal temperature monitoring (Siegel and Gravenstein), 89
manometers
continuous measurement of central venous pressure by manometry (Doyle), TECHNICAL NOTE, 59
monitors
infrared analysis of volatile anesthetics: impact of monitor agent setting, volatile mixtures, and alcohol (Guyton and Gravenstein), 203
nitrogen analyzer
detection of venous air embolism in dogs by emission spectrometry (Russell et al), 18
oscillometers
accuracy of four indirect methods of blood pressure measurement, with hemodynamic correlations (Gravlee and Brockschmidt), 284
oxygen analyzers
oxygen analyzers: failure rates and life spans of galvanic cells (Meyer), 196
pulse oximeters
CO_2-calibration error during automatic correction of measurements in the N1000 Nellcor pulseoximeter/capnometer (Hruby and Marvulli), CORRESPONDENCE, 339
effect of anemia on pulse oximeter accuracy at low saturation (Severinghaus and Koh), 85
errors in 14 pulse oximeters during profound hypoxia (Gorback), CORRESPONDENCE, 158
ETCO2-calibration error in Nellcor N1000 multifunctional monitor (Swedlow), CORRESPONDENCE, 339
prolonging the lifespan of disposable Nellcor pulse oxisensors (Shamowitz and Miguel), CORRESPONDENCE, 160

sensors
miniaturized sensors to record metabolic variables (Urban et al), 163A
spectrometers
detection of venous air embolism in dogs in emission spectrometry (Russell et al), 10
evaluation of long sampling tubes for remote monitoring by mass spectrometry (Lerou et al), 39
stethoscope
esophageal
observer reliability in detecting surreptitious random occlusions of the monaural esophageal stethoscope (Cooper and Cullen), 271
passive warming of airway gases (artificial nose) improves accuracy of esophageal temperature monitoring (Siegel and Gravenstein), 99
placement of esophageal stethoscope by acoustic criteria does not consistently yield an optimal location for the monitoring of core temperature (Freund and Brengelmann), 266
low-cost, high-fidelity FM wireless precordial radiostethoscope for continuous monitoring of heart and breath sounds (Mizutani et al), TECHNICAL NOTE, 61
thermometers
hyperthermia alert caused by unrecognized temperature monitor malfunction (Freund and Sharar), CORRESPONDENCE, 257
inexpensive temperature monitor for heated humidifier (Doyle), TECHNICAL NOTE, 57
transducers
pressure measurement artifact with analog-to-digital conversion (Siegel and Pearl), TECHNICAL NOTE, 318
ventilators
closed-loop control for anesthesia breathing systems (Westenskow and Wallroth), PANEL ON MODELING AND CONTROL, 249
monitoring for disconnection: ventilators with bellows rising on expiration can deliver tidal volumes after disconnection (Gravenstein and Nederstigt), TECHNICAL NOTE, 207
Esophageal stethoscope. *See under* Equipment
Extracorporeal roller pump. *See under* Equipment

Fever
hyperthermia alert caused by unrecognized temperature monitor malfunction (Freund and Sharar), CORRESPONDENCE, 257
Fick principle. *See under* Measurement techniques
Fluid balance
prediction of flow capability in intravenous infusion systems: implications for fluid resuscitation (Philip and Philip), 113

Galvanic cells
oxygen analyzers: failure rates and life spans of galvanic cells (Meyer), 196

Heart
arrhythmia
electrocardiographic monitoring: an overview (Weinfurt), KNOWING YOUR MONITORING EQUIPMENT, 132
cardiac output
commercial double-indicator-dilation densitometer using heavy water: evaluation in oleic-acid pulmonary edema (Leksell et al), 99
continuous measurement of cardiac output using stochastic system identification techniques (Yelderman), ALGORITHM, 322
frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
observer reliability in detecting surreptitious random occlusions of the monaural esophageal stethoscope (Cooper and Cullen), 271
pacemakers
electrocardiographic monitoring: an overview (Weinfurt), KNOWING YOUR MONITORING EQUIPMENT, 132
rate
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10
simulation of neuromuscular function and heart rate during induction, maintenance, and reversal of neuromuscular blockade (Jaklitsch and Westenskow), 24
Helicopters
monitoring patients during helicopter flights (Talke et al), TECHNICAL NOTE, 139
Hepatic encephalopathy
continuous central nervous system monitoring of hepatic coma (Moberg et al), 177A
Humidification
inexpensive temperature monitor for heated humidifiers (Doyle), TECHNICAL NOTE, 57
passive warming of airway gases (artificial nose) improves accuracy of esophageal temperature monitoring (Siegel and Gravenstein), 89
Hyperbaria. *See under* Oxygen, hyperbaric
Hyperthermia, induced
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183
oxygen uptake and mean blood pressure as indicators of induced hyperthermia (de las Alas et al), 186
Hypnotics
benzodiazepines
benzodiazepine and thiopental bolus-induced electroencephalographic changes in comatose patients to evaluate the early prognosis of spontaneous or traumatic hemorrhages (Fritz et al), 178A
sedation of postoperative ventilated patients with propofol or midazolam monitored by on-line electroencephalographic analysis (Hecht et al), 175A
midazolam
sedation of postoperative ventilated patients with propofol or midazolam monitored by on-line electroencephalographic analysis (Hecht et al), 175A
sedation for mechanical ventilation (Lehmkuhl et al), 178A
Hypothermia. *See* Fever
Hypoxia
effect of anemia on pulse oximeter accuracy at low saturation (Severinghaus and Koh), 85
errors in 14 pulse oximeters during profound hypoxia (Gorback), CORRESPONDENCE, 158

Infant, newborn
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211

Infrared. *See under* Measurement techniques
Infusions, intra-arterial
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 241
Infusions, intravenous
prediction of flow capability in intravenous infusion systems: implications for fluid resuscitation (Philip and Philip), 113
Intensive care units
long-time monitoring—options to use on patients in neurologic intensive care units (Weis et al), 168A

Laser Doppler flowmetry. *See under* Measurement techniques
Lung
blood flow
problems associated with the determination of pulmonary vascular resistance (Gorback), SPECIAL COMMUNICATION, 118
edema
commercial double-indicator-dilution densitometer using heavy water: evaluation in oleic-acid pulmonary edema (Leksell et al), 99
volume, tidal
monitoring for disconnection: ventilators with bellows rising on expiration can deliver tidal volumes after disconnection (Gravenstein and Nederstigt), TECHNICAL NOTE, 207

Magnetic resonance imaging
magnetic resonance and single photon emission computed tomography of traumatic brain damage: implications for early and late stages of head injury (Teasdale), 168A
Measurement techniques
blood pressure
accuracy of four indirect methods of blood pressure measurement, with hemodynamic correlations (Gravlee and Brockschmidt), 284
auscultatory mean blood pressure (Davis and Geddes), 261
continuous measurement of central venous pressure by manometry (Doyle), TECHNICAL NOTE, 59
pressure measurement artifact with analog-to-digital conversion (Siegel and Pearl), TECHNICAL NOTE, 318
capnography
anesthesia machine malfunction simulating spontaneous respiratory effort (Hensler and Dhamee), CASE REPORT, 128
CO_2-calibration error during automatic correction of measurements in the N1000 Nellcor pulseoximeter/capnometer (Hruby and Marvulli), CORRESPONDENCE, 339
relationship between arterial carbon dioxide and end-tidal carbon dioxide when a nasal sampling port is used (McNulty et al), 93
respiratory monitoring of carbon dioxide and oxygen: a ten year perspective (Weingarten), SPECIAL COMMUNICATION, 217
cardiac output
frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
densitometry
commercial double-indicator dilation densitometer using heavy water: evaluation in oleic-acid pulmonary edema (Leksell et al), 99
Doppler ultrasound
functional electroencephalographic frequency analysis and transcranial Doppler sonography as methods to assess the effectiveness of osmotic therapy (Fritz et al), 180A
neurophysiologic monitoring in carotid artery surgery: a comparison of somatosensory evoked responses and transcranial Doppler ultrasound (Thiel et al), 172A
transcranial Doppler sonography during anesthesia and intensive care (Schregel et al), 180A
transcranial Doppler ultrasonography in the diagnosis of brain death (Zamperetti et al), 181A
Fick principle
frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
infrared
infrared analysis of volatile anesthetics: impact of monitor agent setting, volatile mixtures, and alcohol (Guyton and Gravenstein), 203
Laser Doppler flowmetry
assessment of peripheral blood flow using a pulse oximeter (Vegfors et al), 1
mass spectrometry
evaluation of long sampling tubes for remote monitoring by mass spectrometry (Lerou et al), 39
neuromuscular blockade
simulation of neuromuscular function and heart rate during induction, maintenance, and reversal of neuromuscular blockade (Jaklitsch and Westenskow), 24
oscillometry
accuracy of four indirect methods of blood pressure measurement, with hemodynamic correlations (Gravlee and Brockschmidt), 284
oximetry
differential paramagnetic sensor for breath-by-breath oximetry (Meriläinen), KNOWING YOUR MONITORING EQUIPMENT, 65
oxygraphy
respiratory monitoring of carbon dioxide and oxygen: a ten-year perspective (Weingarten), SPECIAL COMMUNICATION, 217
plethysmography
rib cage and abdominal piezoelectric film belts to measure ventilatory airflow (Pennock), 276
pulse oximetry
assessment of peripheral blood flow using a pulse oximeter (Vegfors et al), 1
CO_2-calibration error during automatic correction of measurements in the N1000 Nellcor pulseoximeter/capnometer (Hruby and Marvulli), CORRESPONDENCE, 339
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5
effect of anemia on pulse oximeter accuracy at low saturation (Severinghaus and Koh), 85
errors in 14 pulse oximeters during profound hypoxia (Gorback), CORRESPONDENCE, 158

frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
monitoring patients during helicopter flights (Talke et al), TECHNICAL NOTE, 139
respiratory monitoring of carbon dioxide and oxygen: a ten-year perspective (Weingarten), SPECIAL COMMUNICATION, 217

spirometry
monitoring for disconnection: ventilators with bellows rising on expiration can deliver tidal volumes after disconnection (Gravenstein and Nederstigt), TECHNICAL NOTE, 207

transcranial Doppler sonography
monitoring with transcranial Doppler (Ladurner), 168A

Metabolism
miniaturized sensors to record metabolic variables (Urban et al), 163A

oxygen consumption
anesthesia machine malfunction simulating spontaneous respiratory effort (Hensler and Dhamee), CASE REPORT, 128

Midazolam. *See under* Hypnotics

Models
modeling and control (Forbes), PANEL ON MODELING AND CONTROL, 227
self-tuning adaptive control of induced hypotension in humans: a comparison of isoflurane and sodium nitroprusside (Prys-Roberts and Millard), PANEL ON MODELING AND CONTROL, 236

Monitoring

blood pressure
accurate measurement of intraarterial pressure through radial artery catheters in neonates (Hack et al), TECHNICAL NOTE, 211
auscultatory mean blood pressure (Davis and Geddes), 261
continuous measurement of central venous pressure by manometry (Doyle), TECHNICAL NOTE, 59
does measurement of systolic blood pressure with a pulse oximeter correlate with conventional methods? (Talke et al), 5
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183
monitoring patients during helicopter flights (Talke et al), TECHNICAL NOTE, 139
oxygen uptake and mean blood pressure as indicators of induced hyperthermia (de las Alas et al), 186

carbon dioxide
detection of venous air embolism by continuous intraarterial oxygen monitoring (Greenblott et al), 53
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183
relationship between arterial carbon dioxide and end-tidal carbon dioxide when a nasal sampling port is used (McNulty et al), 93
transcutaneous PCO_2 and PO_2: a multicenter study of accuracy (Palmisano and Severinghaus), 189

central nervous system
clinical and instrumental central nervous system monitoring in the diagnosis of brain death: an Italian experience (Zamperetti et al), 181A
future of brain monitoring (Rampil), 170A
influence of anesthetics on blood flow velocity of cerebral circulation (Heuser), 162A
long-time monitoring—options to use on patients in neurologic intensive care units (Weis et al), 168A
objective analysis in subarachnoid hemorrhage—is it better than the view from the end of the bed? (Symon), 169A

electrocardiography
ECG ambulatory monitoring with a real-time analysis system (Ferraioli et al), 307
electrocardiographic artifact caused by extracorporeal roller pump (Kleinman et al), CORRESPONDENCE, 258
electrocardiographic monitoring: an overview (Weinfurt), KNOWING YOUR MONITORING EQUIPMENT, 132

electroencephalography
benzodiazepine and thiopental bolus-induced electroencephalographic changes in comatose patients to evaluate the early prognosis of spontaneous or traumatic hemorrhages (Fritz et al), 178A
brain mapping of electroencephalography during induction of anesthesia with propofol (Engelhardt et al), 175A
central nervous system monitoring for diagnosis and control of therapy (Gaab et al), 161A
continuous central nervous system monitoring of hepatic coma (Moberg et al), 177A
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10
electroencephalographic- and evoked potential-supported pharmacologic brain protection (Schoeppner et al), 177A
functional electroencephalographic frequency analysis and transcranial Doppler sonography as methods to assess the effectiveness of osmotic therapy (Fritz et al), 180A
intraoperative electroencephalographic and evoked potential monitoring—indications, patterns, and areas of information (Schoeppner et al), 165A
intraoperative electroencephalographic and somatosensory evoked potential monitoring in extra-intracranial high-flow bypass procedures via venous interposition (Fritz et al), 172A
long-term monitoring of spontaneous and evoked bioelectrical brain activities (Litscher et al), 164A
neurophysiologic and neuropsychologic methods as complementary measures in neuromonitoring (Heinze and Künkel), 169A
radiotelemetric long-term monitoring for patients evaluated for surgical therapy of epilepsy (Wieser et al), 165A
relationship between the level of intravenous-inhalation anesthesia and electroencephalographic changes (Cheng-hui and Shi-ao), 176A
sedation of postoperative ventilated patients with propofol or midazolam monitored by on-line electroencephalographic analysis (Hecht et al), 175A
simultaneous acquisition and analysis of multichannel electroencephalographic and evoked potentials for intraoperative monitoring (Hinrichs et al), 164A
study of the relationship between postanesthetic shivering and electroencephalographic changes (Cheng-hui and Shi-ao), 176A

equipment
oxygen analyzers: failure rates and life spans of galvanic cells (Meyer), 196
evoked potentials
adjusted surgical and anesthetic management of carotid endarterectomy by means of somatosensory evoked potential (Dinkel), 171A
assessment of recovery of spinal cord function using somatosensory evoked potentials after thoracic aortic cross-clamping (Freye et al), 167A
brainstem auditory evoked potentials in neonates with Chiari II malformation in relation to ventriculoperitoneal shunting (Ronen et al), 173A
central nervous system monitoring for diagnosis and control of therapy (Gaab et al), 161A
digital analysis of auditory-evoked potentials as further approach to anesthetic depth (Kuppe et al), 174A
electroencephalographic- and evoked potential-supported pharmacologic brain protection (Schoeppner et al), 177A
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10
experience with somatosensory evoked potential monitoring during carotid endarterectomy (Jaksche et al), 171A
influence of stimulation period on the latencies of CO_2 evoked pain potentials (Morawetz et al), 173A
intraoperative electroencephalographic and evoked potential monitoring—indications, patterns, and areas of information (Schoeppner et al), 165A
intraoperative electroencephalographic and somatosensory evoked potential monitoring in extra-intracranial high-flow bypass procedures via venous interposition (Fritz et al), 172A
long-time monitoring of spontaneous and evoked bioelectrical brain activities (Litscher et al), 164A
neurophysiologic and neuropsychologic methods as complementary measures in neuromonitoring (Heinze and Künkel), 169A
neurophysiologic monitoring by means of evoked potentials during cervical spine surgery (Landi et al), 174A
neurophysiologic monitoring in carotid artery surgery: a comparison of somatosensory evoked responses and transcranial Doppler ultrasound (Thiel et al), 172A
prognostic value of somatosensory evoked potential monitoring and tumor data in supratentorial tumor removal (Witzman et al), 75
simultaneous acquisition and analysis of multichannel electroencephalographic and evoked potentials for intraoperative monitoring (Hinricks et al), 164A
use of acoustically evoked potentials to record depth of anesthesia (Daub), 166A
use of somatosensory evoked responses in carotid surgery (Bosco et al), 170A
heart
continuous measurement of cardiac output using stochastic system identification techniques (Yelderman), ALGORITHM, 322
end-tidal carbon dioxide concentration, carbon dioxide production, heart rate, and blood pressure as indicators of induced hyperthermia (de las Alas et al), 183
low-cost, high-fidelity FM wireless precordial radiostethoscope for continuous monitoring of heart and breath sounds (Mizutani et al), TECHNICAL NOTE, 61
monitoring patients during helicopter flights (Talke et al), TECHNICAL NOTE, 139
observer reliability in detecting surreptitious random occlusions of the monaural esophageal stethoscope (Cooper and Cullen), 271
inspired gas
evaluation of long sampling tubes for remote monitoring by mass spectrometry (Lerou et al), 39
intracranial pressure
central nervous system monitoring for the therapy control of subarachnoid hemorrhage (Haass), 167A
intracranial pressure effects of venous draining—an experimental study in swine (Hennes et al), 178A
intraparenchymal and conventional monitoring of intracranial pressure (Rabow and Bergenheim), 163A
modeling and control (Forbes), PANEL ON MODELING AND CONTROL, 227
motor evoked potentials
spinal cord ischemia and motor evoked potentials (Doyle), CORRESPONDENCE, 340
oxygen
detection of venous air embolism by continuous intraarterial oxygen monitoring (Greenblott et al), CASE REPORT, 53
differential paramagnetic sensor for breath-by-breath oximetry (Meriläinen), KNOWING YOUR MONITORING EQUIPMENT, 65
frequently repeated Fick cardiac output measurements during anesthesia (Doi et al), 107
monitoring patients during helicopter flights (Talke et al), TECHNICAL NOTE, 139
oxygen uptake and mean blood pressure as indicators of induced hyperthermia (de las Alas et al), 186
progress in the development of a fluorescent intravascular blood gas system in man (Mahutte et al), TECHNICAL NOTE, 147
respiratory monitoring of carbon dioxide and oxygen: a ten-year perspective (Weingarten), SPECIAL COMMUNICATION, 217
transcutaneous PCO_2 and PO_2: a multicenter study of accuracy (Palmisano and Severinghaus), 189
physiologic
microcomputer-based data acquisition system for clinical research (Schwid et al), 141
self-tuning adaptive control of induced hypotension in humans: a comparison of isoflurane and sodium nitroprusside (Prys-Roberts and Millard), PANEL ON MODELING AND CONTROL, 236
temperature
hyperthermia alert caused by unrecognized temperature monitor malfunction (Freund and Sharar), CORRESPONDENCE, 257
inexpensive temperature monitor for heated humidifiers (Doyle), TECHNICAL NOTE, 57
passive warming of airway gases (artificial nose) improves accuracy of esophageal temperature monitoring (Siegel and Gravenstein), 89
placement of esophageal stethoscope by acoustic criteria does not consistently yield an optimal location for the monitoring of core temperature (Freund and Brengelmann), 266

vascular
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 241
monitoring with transcranial Doppler (Ladurner), 168A
problems associated with the determination of pulmonary vascular resistance (Gorback), SPECIAL COMMUNICATION, 118
ventilation
closed-loop control for anesthesia breathing systems (Westenskow and Wallroth), PANEL ON MODELING AND CONTROL, 249
detection of venous air embolism in dogs by emission spectrometry (Russell et al), 18
low-cost, high-fidelity FM wireless precordial radiostethoscope for continuous monitoring of heart and breath sounds (Mizutani et al), 61
observer reliability in detecting surreptitious random occlusions of the monaural esophageal stethoscope (Cooper and Cullen), 271
rib cage and abdominal piezoelectric film belts to measure ventilatory airflow (Pennock), 276

Neuromuscular relaxants
simulation of neuromuscular function and heart rate during induction, maintenance, and reversal of neuromuscular blockade (Jaklitsch and Westenskow), 24
Nitrogen analyzers. *See under* Equipment
Nitroprusside
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 214
self-tuning adaptive control of induced hypotension in humans: a comparison of isoflurane and sodium nitroprusside (Prys-Roberts and Millard), PANEL ON MODELING AND CONTROL, 236

Oscillometers. *See under* Equipment
Oscillometry. *See under* Measurement techniques
Oximetry. *See under* Measurement techniques
Oxygen
blood levels
effect of anemia on pulse oximeter accuracy at low saturation (Severinghaus and Koh), 85
differential paramagnetic sensor for breath-by-breath oximetry (Meriläinen), KNOWING YOUR MONITORING EQUIPMENT, 65
hyperbaric
electroencephalographic and evoked potential monitoring in the hyperbaric environment (Litscher et al), 10
tension
progress in the development of a fluorescent intravascular blood gas system in man (Mahutte et al), TECHNICAL NOTE, 147
uptake
oxygen uptake and mean blood pressure as indicators of induced hyperthermia (de las Alas et al), 186
Oxygraphy. *See under* Measurement techniques

Pain
influence of the stimulation period on the latencies of CO_2 evoked pain potentials (Morawetz et al), 173A
Propofol. *See under* Anesthetics: intravenous
Pulse oximeters. *See under* Equipment
Pulse oximetry. *See under* Measurement techniques

Realtime systems. *See under* Computer systems
Records, anesthesia
automated anesthetic record is inevitable and valuable (Hamilton), CLINICAL CONTROVERSY, 333
automated anesthetic record will not automatically solve problems in record keeping (Saunders), CLINICAL CONTROVERSY, 335
microcomputer-based data acquisition system for clinical research (Schwid et al), 141
present and future medicolegal importance of record keeping in anesthesia and intensive care: the case for automation (Gaba), CORRESPONDENCE, 338
recognition accuracy with a voice-recognition system designed for anesthesia record keeping (Smith et al), 299
Respiration. *See under* Metabolism: oxygen consumption
Resuscitation, fluid
prediction of flow capability in intravenous infusion systems: implications for fluid resuscitation (Philip and Philip), 113

Shivering
study of the relationship between postanesthetic shivering and electroencephalographic changes (Cheng-hui and Shi-ao), 176A
Sorbitol
functional electroencephalographic frequency analysis and transcranial Doppler sonography as methods to assess the effectiveness of osmotic therapy (Fritz et al), 180A
Spectrum analysis, mass
evaluation of long sampling tubes for remote monitoring by mass spectrometry (Lerou et al), 39
Spinal cord
assessment of recovery of spinal cord function using somatosensory evoked potentials after thoracic aortic cross-clamping (Freye et al), 167A
ischemia
spinal cord ischemia and motor evoked potentials (Doyle), CORRESPONDENCE, 340
surgery
neurophysiologic monitoring by means of evoked potentials during cervical spine surgery (Landis et al), 174A
Spirometry. *See under* Measurement techniques
Subarachnoid hemorrhage
central nervous system monitoring for the therapy control of subarachnoid hemorrhage (Haass), 167A
objective analysis in subarachnoid hemorrhage—is it better than the view from the end of the bed? (Symon), 169A
Surgery
cardiac
accuracy of four indirect methods of blood pressure measurement, with hemodynamic correlations (Gravlee and Brockschmidt), 284
engineering implications of closed-loop control during cardiac surgery (Sebald et al), PANEL ON MODELING AND CONTROL, 242

neurologic
neurophysiologic monitoring by means of evoked potentials during cervical spine surgery (Landi et al), 174A
supratentorial tumors
prognostic value of somatosensory evoked potential monitoring and tumor data in supratentorial tumor removal (Witzman et al), 75
vascular
adjusted surgical and anesthetic management of carotid endarterectomy by means of somatosensory evoked potential (Dinkel), 171A
experience with somatosensory evoked potential monitoring during carotid endarterectomy (Jaksche et al), 171A
use of somatosensory evoked responses in carotid surgery (Bosco et al), 170A

Thermometers. *See under* Equipment
Thiopental. *See under* Anesthetics: intravenous
Tomography, emission computed
magnetic resonance and single photon emission computed tomography of traumatic brain damage: implications for early and late stages of head injury (Teasdale), 168A
Transcranial Doppler sonography. *See under* Measurement techniques
Transducers. *See under* Equipment

Vascular resistance
problems associated with the determination of pulmonary vascular resistance (Gorback), SPECIAL COMMUNICATION, 118
Veins
venous pressure
continuous measurement of central venous pressure by manometry (Doyle), TECHNICAL NOTE, 59
Ventilation
mechanical
sedation for mechanical ventilation (Lehmkuhl et al), 178A
sedation of postoperative ventilated patients with propofol or midazolam monitored by on-line electroencephalographic analysis (Hecht et al), 175A
Voice recognition
recognition accuracy with a voice-recognition system designed for anesthesia record keeping (Smith et al), 299